

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. Method for stabilizing the motion of an articulated chain of a chain block to impede the formation of resonance oscillation of the chain, in which an articulated chain is passed across a polygonal chain wheel with non-uniform pitch, said chain wheel driven by an electric motor, said method comprising:

superimposing a dampening actuating variable on the velocity of the chain wheel wherein the dampening actuating variable produces a change in the chain velocity so as to impede formation of a resonance oscillation wherein the dampening actuation variable is at least one chosen from a periodic variable and a stochastic variable.

2. The method of claim 1 including actuating the electric motor by an electronic damper.

3. The method of claim 2, wherein a nominal rotary speed ( $n_{\text{Soll}}$ ) of the chain wheel is supplied to said electronic damper as a first input variable and an actual angle ( $\psi_{\text{rad}}$ ) of the chain wheel as a second input variable, wherein the dampening actuating variable is computed in said electronic damper from the first and second input variables, the dampening actuator variable being transferred to the electric motor in the form of a dampened rotary speed ( $n^*_{\text{Soll}}$ ).

4. The method of claim 3 including computing a dampening force ( $F_D$ ) as the dampening actuating variable in the electronic damper, said dampening force proportional to the amplitude of velocity fluctuation ( $\dot{y}_m$ ) of the load, and it is calculated from a sensor-detected actual angle ( $\psi_{\text{rad}}$ ).

5. The method of claim 4 including providing a sensor and detecting with said sensor the effect of a resonance oscillation building up and altering the dampening actuating variable as a result of the resonance oscillation.

6. The method of claim 5 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

7. The method of claim 1 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

8. The method of claim 2 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

9. The method of claim 3 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

10. The method of claim 4 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

11. The method of claim 1 including providing a sensor and detecting with said sensor the effect of a resonance oscillation building up and altering the dampening actuating variable as a result of the resonance oscillation.

12. The method of claim 11 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

13. The method of claim 2 including providing a sensor and detecting with said sensor the effect of a resonance oscillation building up and altering the dampening actuating variable as a result of the resonance oscillation.

14. The method of claim 13 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

15. The method of claim 3 including providing a sensor and detecting with said sensor the effect of a resonance oscillation building up and altering the dampening actuating variable as a result of the resonance oscillation.

16. The method of claim 15 including providing a velocity pilot control unit and, in event of a constant load being lifted or lowered, superimposing a programmable velocity pattern on the chain velocity with said control unit in order to prevent the formation of a resonance oscillation of the articulated chain.

17. A chain block, comprising:

a chain led across a polygonal chain wheel with an electric motor acting on the chain wheel; and

an electronic damper hooked up in front of the electric motor, said electronic damper controlling said electric motor including superimposing a dampening actuating variable on the velocity of said chain wheel;

wherein the dampening actuating variable produces a change in the chain velocity so as to impede formation of a resonance oscillation, wherein the dampening actuation variable is at least one chosen from a periodic variable and a stochastic variable;

whereby formation of a resonance oscillation of the articulated chain is impeded.

18. The chain block of claim 17, wherein a nominal rotary speed ( $n_{Soll}$ ) of the chain wheel is provided as a first input to said electronic damper and an actual angle ( $\psi_{rad}$ ) of the chain wheel as a second input to said electronic damper.
19. The chain block of claim 18 including an angle and a sensor, said angle sensor determining the actual angle ( $\psi_{rad}$ ) of the chain wheel.
20. The chain block of claim 19 wherein said angle sensor comprises a pulse transmitter, said pulse transmitter determining the actual angle of the wheel in terms of pulses.
21. The chain block of claim 19, wherein said electronic damper is configured as a pilot control element.
22. The chain block of claim 21 including a sensor, said sensor detecting the effect of an incipient resonance oscillation, wherein the dampening actuating variable is altered as a result of the incipient resonance oscillation.
23. The chain block of claim 17 including an angle and a sensor, said angle sensor determining the actual angle ( $\psi_{rad}$ ) of the chain wheel.
24. The chain block of claim 23, wherein said electronic damper is configured as a pilot control element.
25. The chain block of claim 24 including a sensor, said sensor detecting the effect of an incipient resonance oscillation, wherein the dampening actuating variable is altered as a result of the incipient resonance oscillation.
26. The chain block of claim 17, wherein said electronic damper is configured as a pilot control element.

27. The chain block of claim 26 including a sensor, said sensor detecting the effect of an incipient resonance oscillation, wherein the dampening actuating variable is altered as a result of the incipient resonance oscillation.

28. The chain block of claim 17 including a sensor, said sensor detecting the effect of an incipient resonance oscillation, wherein the dampening actuating variable is altered as a result of the incipient resonance oscillation.

29. The chain block of claim 18 including a sensor, said sensor detecting the effect of an incipient resonance oscillation, wherein the dampening actuating variable is altered as a result of the incipient resonance oscillation.